NATIONAL TRANSPORTATION SAFETY BOARD

IN RE:	
THE EL FARO INCIDENT OFF THE COAST OF THE BAHAMAS ON OCTOBER 1, 2015	NTSB Accident No. DCA16MM001

Interview of: MICHAEL NEWTON

Monday,
February 8, 2016

Via teleconference

BEFORE:

ERIC STOLZENBERG, NTSB
MIKE KUCHARSKI, NTSB
JEFFERY STETTLER, U.S. Coast Guard
LCDR [redacted], U.S. Coast Guard
THOMAS GRUBER, ABS
DENNIS O'MEARA, TOTE Services
EUGENE VAN RYNBACH, Herbert Engineering (HEC)
SPENCER SCHILLING, Herbert Engineering (HEC)
WILLA FRANCE, Attorney for M. Newton

This transcript was produced from audio provided by the National Transportation Safety Board.

P-R-O-C-E-E-D-I-N-G-S

(11:42 a.m.)

INVESTIGATOR STOLZENBERG: Okay. It's Tuesday or excuse me, Monday, February 8, 2016. My name is Eric Stolzenberg. I am an NTSB senior accident investigator with the Naval Architecture Group.

And I'm here to interview Mr. Mike Newton with parties and others regarding the sinking of the El Faro. The time is 11:42. Mr. Newton, could you spell your name for the record?

MR. NEWTON: Michael, M-I-C-H-A-E-L, Newton, N-E-W-T-O-N.

INVESTIGATOR STOLZENBERG: Thank you. Also present and I'll go around the table hopefully with the previously assigned numbers. Number one.

MR. STETTLER: Good morning. I'm Jeff Stettler. I'm a civilian with the U.S. Coast Guard. I'm the assigned member of the Naval Architecture, the Structures and Stability Group.

MR. [redacted]: Lieutenant Commander [redacted] from the Coast Guard. I'm a member of the traveling inspections staff and I'm also helping Jeff Stettler along with the Naval Architecture Group.

INVESTIGATOR STOLZENBERG: And two.

MR. GRUBER: Tom Gruber. I'm with ABS in

the Nav Arc (phonetic) group.

MR. O'MEARA: This is Dennis O'Meara. I'm with TOTE Services and I'm on the Naval Architecture Group.

INVESTIGATOR KUCHARSKI: Good morning, everyone. Mike Kucharski, NTSB Group Chairman, Political Operations.

MR. VAN RYNBACH: This is Eugene Van Rynback, Herbert Engineering.

MR. SCHILLING: And Spencer Schilling, President at Herbert Engineering.

MR. FRANCE: And Willa France, counsel for Mike Newton and Herbert and Herbert ABS.

INVESTIGATOR STOLZENBERG: Okay. Thank you all. Mr. Newton, the NTSB is an independent federal agency charged with determining the probable cause of transportation accidents and promoting transportation safety.

We are not part of the Department of Transportation or the United States Coast Guard. We have no regulatory or enforcement powers. The purpose of the NTSB investigation into the El Faro is to increase safety. It is not to assign fault, blame or liability.

However, the NTSB cannot offer any guarantee

of confidentiality or immunity from legal or license actions. I spoke to you earlier. We would like to record the interview to ensure an accurate record. Do you have an objection to this, Mr. Newton?

MR. NEWTON: I have no objection.

INVESTIGATOR STOLZENBERG: Okay, thank you. A transcript or summary of the interview will go into the public docket. You will be given the opportunity to review the transcript and suggest corrections for accuracy prior to release which will be also attached to the transcript.

Mr. Newton, you can have one representative of your choice. The representative may not testify for the interviewee. The representative's comments should be limited and objections are not grounds for the NTSB to refrain from asking questions.

Do you have a representative of your choice present?

MR. NEWTON: Yes, that's Willa.

INVESTIGATOR STOLZENBERG: Okay, thank you. Mr. Newton, please answer all questions to the best of your recollection. If you don't understand a question please ask to have it repeated or clarified. And if later on you realize you misstated or you need to modify a previous answer it's okay to do so.

Please just come back and tell us, you know, I've thought a little more about a previous answer I gave. I can add this or this may not be correct. So feel free to do that at any time. And if you don't know the answer to a question you don't have to answer it.

So, you know, please let us know if you don't know the answer. Okay.

MR. NEWTON: Okay.

INVESTIGATOR STOLZENBERG: I will start the interview. Mr. Newton, what is your job title, who is your employer?

MR. NEWTON: My job title is vice president naval architect. I am employed by Herbert ABS Software at this time. I am also head of development here and product manager for the CargoMax and L&P Software Divisions.

INVESTIGATOR STOLZENBERG: Okay, thank you. If you could, could you provide a brief background of your marine experience that's led to this current position?

MR. NEWTON: Okay. I graduated from Webb Institute of Naval Architecture in Marine Engineering in 1999 and was hired by Herbert Engineering at the time to focus on development within their CargoMax

division.

I have been with Herbert and the software division ever since for the past 16, 17 years. The software division itself has gone through a couple name changes and classifications, I guess. But it's always been basically the same company and same position or same company, I guess.

INVESTIGATOR STOLZENBERG: Okay. What products, well let me take a step back. As a vice president with design software and what you explained, what's your day to day work day consist of?

MR. NEWTON: Day to day my job calls for me to do a number of, quite a number of different things. As I said, I'm in charge of the development group here in our company. I have five developers or four developers now that are underneath me.

And so I work hand in hand with them to make sure that all of our software development is progressing as planned. I also manage CargoMax which is our shipboard software and L&P which is our offshore based software. I manage those products and I do project management and I also assist in our junior project management, project manager's tasks.

There is some level of corporate oversight and working with our president on maintaining the

overall company business development. I do some marketing. I do some client support as requests and needs come in. Yes, I wear many different hats.

INVESTIGATOR STOLZENBERG: Okay, thank you. Regarding the products Herbert and correct me if I'm wrong, it's Herbert ABS Software?

MR. NEWTON: Yes, I can explain a little bit of the history of the company if that's necessary.

INVESTIGATOR STOLZENBERG: Yes, let's start with that topic and we'll go to more detailed topics later. That's on the list is the relationship of Herbert to ABS and the history of Herbert ABS Software. So please feel free.

MR. NEWTON: Okay. So, as I said, when I first joined Herbert Engineering in 1999 they had a software division. It was all just part of Herbert Engineering. Within a couple years there was a joint venture created with another software company from Sweden and we created a company called Loadmaster International.

Again, it was the same people and it was Herbert Engineering that was an owner of that company. That Loadmaster International Company got reabsorbed by Herbert Engineering a couple years later at which point Herbert Software Solutions Inc, HSSI was created.

At that point HSSI was 100 percent owned by Herbert Engineering. So we were, it was basically just the software division within Herbert Engineering.

And then in 2010, 2011, ABS, American Bureau of Shipping approached Herbert Engineering and wanted to work with them and work with the software division because ABS was using our software for a number of aspects and they had a business plan in place that they expected the offshore business and the offshore software areas to expand quite a bit and that, and from that the Herbert or ABS Software Solutions, LLC was created with, the creation was basically HEC put in the existing HSSI software division.

ABS put in a set of money and we basically created a 50/50 LLC between Herbert Engineering and ABS. And so that's the origin of the Herbert ABS Software that we are now going by.

INVESTIGATOR STOLZENBERG: Okay. Does ABS provide any of the engineering personnel or software solutions to the Herbert Software Solutions?

MR. NEWTON: Not directly, no. We are hiring and, or we've hired people since the merger. But none of them have come directly from ABS.

INVESTIGATOR STOLZENBERG: Okay. Is there a separate office within ABS that does any work or is all

work within the Herbert side of the LLC?

MR. NEWTON: Almost all of the work is within the Herbert ABS LLC. We do use ABS for some marketing benefits. But from an engineering side there is no engineering directly coming from ABS.

INVESTIGATOR STOLZENBERG: Okay. And who would be the contact for, on the ABS side for the software solutions, a gentleman or a woman?

MR. NEWTON: The way the company is set up is that there's a board of directors with four members, two of which are Herbert Engineering employees, two of which are ABS employees. So my guess is that the best would be the two ABS members of the board, which at this point are Chris Seritella (phonetic) and I am actually drawing a blank on the second person's name.

INVESTIGATOR STOLZENBERG: Okay.

MR. NEWTON: I could ask Spencer. I believe he would know.

INVESTIGATOR STOLZENBERG: That's okay. Seritella is fine. It sounds like these aren't folks you interact with regularly then in a day to day work on client projects?

MR. NEWTON: No, there's very little day to day work directly with ABS as far as our company goes. There's, we do quite a lot on the approval side. But

that's independent of our joint venture.

INVESTIGATOR STOLZENBERG: And that's my remaining question is, in your experience how does the ABS classification side treat you similarly to how you were treated before you became ABS or Herbert ABS Software Solutions?

MR. NEWTON: Absolutely. Much to the chagrin of our clients, but, yes. We are the same, same behavior.

INVESTIGATOR STOLZENBERG: All right. That's all I have on the topic of Herbert ABS Software Solutions corporate set up and general working. I will move it down the list in the predetermined order number one to the Coast Guard.

MR. STETTLER: Nothing from us.

INVESTIGATOR STOLZENBERG: Number two to Mr. Gruber.

MR. GRUBER: Nothing from me, thank you.

INVESTIGATOR STOLZENBERG: Number three, Dennis O'Meara.

MR. O'MEARA: No questions on that topic.

INVESTIGATOR STOLZENBERG: Number four, Mike Kucharski.

INVESTIGATOR KUCHARSKI: No thank you.

INVESTIGATOR STOLZENBERG: Number five,

Eugene.

MR. VAN RYNBACH: I have nothing.

INVESTIGATOR STOLZENBERG: Number six, Spencer.

MR. SCHILLING: Nothing to add.

INVESTIGATOR STOLZENBERG: And number seven, Willa.

MR. FRANCE: Nothing to add or object.

INVESTIGATOR STOLZENBERG: Okay. Well it's good this appears to be working how we're doing it. And we'll keep moving on. Mr. Newton, what products does the software or Herbert ABS currently provide for commercial ships regarding intact stability, low line damage stability, salvage, wrapped response and damage assessments? I'm just looking for in general what kind of products you guys provide.

MR. NEWTON: We have two main softwares for ship use. We have our general naval architecture package called HECSALV which covers basically everything that you just described there. We also have CargoMax which is our Class approved onboard software stability and strength software.

INVESTIGATOR STOLZENBERG: Okay. Only asking regarding CargoMax, what is the process for say customer solicitation, work on the vessel, analysis,

review, reports and then review for Class approval? In other words in general if a customer comes to you and says they want to put CargoMax on a container ship can you, can you run me through what happens in general?

MR. NEWTON: Absolutely. So if a client comes to us with a request for CargoMax it would either be for a new vessel or for an existing vessel. The process would be much the same. We would gather a little bit of information about the type of ship and what requirements and what tools and features they're looking for within the software.

We would give them a quote. Once they gave us a quote then we would go through a data collection process where we would ask for the approved documentation for that vessel. Once we have received all of that information we will take that documentation and put it into, basically into a database, a ship specific database that we use our internal software to put together.

We'll put together a preliminary version of the CargoMax program itself. Depending on client feedback and how much, you know, how the data process has gone we may or may not give that preliminary version to the client for, you know, preliminary evaluation.

And then once we are, once we and the client are satisfied with the status of the program we will then put a submittal package together to the Class society that is in charge of approving the software. That submittal will be sent to Class.

We normally will give them the program itself as well as the associated documentation that goes along with it. That's generally called a vessel information booklet which again contains a lot of the specific data that we've entered into the program, what regulations and what comparisons and evaluations we're doing in the program as well as comparisons to the approved documentation.

Class will do their approval and then if there are any, you know, requests for changes or any comments or questions that come up from Class there might be an iteration or two to be able to do, update the program to meet Classes' requirements. And then at some point Class will hopefully approve the program at which point we will receive from them basically stamped documentation, our stamped documentation and a letter saying that the CargoMax program has been approved, what it has been approved for.

And then we will probably at that time make hard copies of those documents as well as CDs or

installation packages of the software and deliver them to the clients. And then at some point, sometimes clients will have us come onboard to install the software itself and provide some training, although a lot of times the clients will handle that themselves.

INVESTIGATOR STOLZENBERG: Okay. Do you reference any Herbert Engineering documentation and/or the Trim and Stability Book when you develop a CargoMax solution?

MR. NEWTON: In general our main priority is creating a CargoMax program that will match the approved Trim and Stability Booklet or the approved loading manual, as the case may be. Sometimes HEC will create those T&S booklets that we are trying to match.

But most of the time they're coming the ship yards or something like that.

INVESTIGATOR STOLZENBERG: Okay. So I'm referring specifically, now I would refer specifically to the case of the El Faro. Did you utilize approved loading manuals or the Trim and Stability Booklet from Herbert Engineering in that case?

MR. NEWTON: Yes, we did.

INVESTIGATOR STOLZENBERG: Okay. But as I understand it then it would, that's only because Herbert Engineering was involved in the conversion and

has produced those for the client at the time as well?

MR. NEWTON: That is correct.

INVESTIGATOR STOLZENBERG: Okay. In your experience, have you ever noticed problems with the Trim and Stability Booklet when you developed a computerized loading instrument like CargoMax?

MR. NEWTON: In general?

INVESTIGATOR STOLZENBERG: In general, in your experience not just for the, I don't mean for the El Faro. I mean in general in your years with the program have you ever figured out there was a problem with the Trim and Stability Book while developing a CargoMax solution to match it?

MR. NEWTON: Yes, a number of times.

INVESTIGATOR STOLZENBERG: Okay. And what is a, just describe what is the most typical error you have seen or I don't know if they vary? I'm coming from a place of ignorance here just to get an idea what these errors might be.

MR. NEWTON: They, I don't know if I can say that there's any consistent error that we see. What, the process where we take the existing documentation and put it into our software and put it into our database, it basically forces and we do a lot of validations and a lot of checks in house.

And so it forces us to be very diligent in making sure everything, the numbers that we're getting out, you know, the solutions and the values that we're getting out of software make sense. And once we get to a point where we don't match the T&S Booklet then we have to investigate further.

And most of the time those investigations will result in either we've entered information incorrectly in our model in which case we'll fix it or we find errors in the T&S Booklet that don't, aren't consistent with the rest of the booklet in which case we will go back to the ship yard or the engineering bureau that put that document together and point those errors out.

But in, as far as an overall consistent type of error I can't say. There's a lot of numbers and a lot of different types of information that all feed into our software. So I've probably seen errors in most aspects of that type of information.

INVESTIGATOR STOLZENBERG: Okay, thank you. Regarding the El Faro, were there, were you aware or were there ever any errors or discrepancies between CargoMax and the Trim and Stability Booklet?

MR. NEWTON: During the CargoMax, when we were putting the CargoMax program together there were a

couple of discussions and a couple of issues that came up during the process that resulted in what we would consider incorrect values or incorrect items in the T&S Booklet.

INVESTIGATOR STOLZENBERG: Do you recall what those were approximately or to the best of your recollection?

MR. NEWTON: From my e-mail archive that I have there were two items that came up during the approval process itself. One was the LCG of the light ship which was identified from the preliminary CargoMax that we provided and that was updated in a later revision of the T&S Booklet.

The second probably isn't actually classified as an error in the T&S Booklet as opposed to a shortcoming in the T&S Booklet where we submitted the program to ABS with variable tank information that was not in the T&S Booklet but we felt that our model was better. And ABS came back and requested that the T&S Booklet be updated to include that information as well.

So again that was created or done as a T&S Booklet update at that time.

INVESTIGATOR STOLZENBERG: Okay, thank you. I think some members on the team we've seen some of the documentation about the variable tankage. But the

first point you stated on the light ship discrepancy, one was it, how was it corrected and two, what was the direction of the discrepancy?

Was it transverse ship? Was it vertical, just if you recall?

MR. NEWTON: The problem, if you give me a second I can pull up the e-mail. But the issue arose, the issue originally arose from the inclining experiment itself and the problem was the inclining experiment resulted in an incorrect longitudinal center of gravity of the light ship weight.

And so that LCG was included in the version of the T&S Booklet that we put the preliminary CargoMax together against. As the client was using the preliminary version of the software they noticed that the actual observed drafts and trim of the vessel were not matching what the T&S Booklet would predict.

And CargoMax obviously was matching with T&S Booklet. So their observed drafts weren't matching the calculated drafts in CargoMax. That caused a discussion between SeaStar, Herbert Engineering and us in the software division to investigate further at which point it was determined that the inclining light ship LCG value was incorrect.

Once that LCG or the calculation was fixed

and the LCG was updated, then at that point the calculated values both from the T&S Booklet and from the CargoMax were coming much better into alignment with the actual observed values that they were seeing on the ship.

INVESTIGATOR STOLZENBERG: Okay. Thank you. Is it possible, is there an e-mail or a document that, I'm not necessarily looking for the whole file, an e-mail or a document that describes the gist of what you just said?

MR. NEWTON: If you give me a second I can review my e-mails, but I believe so.

INVESTIGATOR STOLZENBERG: Okay. Well it's not for, not necessarily for here for the interview but just as a document the investigation might request at a later date. And I'll put that down here as an action item here to request the document describing the LCG change.

MR. NEWTON: Okay.

INVESTIGATOR STOLZENBERG: All right. Thank you. I'd like to go around to the other parties here at the table at this point along these lines and just that would be with CargoMax installation aboard the vessel on the El Faro or in general. To the Coast Guard.

MR. STETTLER: Good morning, everyone. Jeff Stettler here from the Coast Guard. I've got a couple of questions or a flow of questions that relate to the development of the CargoMax model. And I think, Mike, thank you, I think you've answered some of them already.

But I would just kind of like to go through the flow. So I understand from what you just said that basically you developed a CargoMax model and perhaps we can focus on the El Faro as best we can, that you based it off a set of approved documentation, ABS approved documentation including Trim and Stability Book.

I thought I heard you mention the loading manual. Is that correct? Did you mention the loading manual?

MR. NEWTON: That was a general statement. T&S Booklet, loading manual sometimes are interchangeable, sometimes one is focused on stability one is focused on strength.

MR. STETTLER: Okay, good. Thank you. But you talked about that basic process. Was there anything different so MET (phonetic) 1 is the El Faro did not have a loading manual. So that was, so you, it was primarily a Trim and Stability Book. Anything else that was used as the base line upon which you based

your CargoMax model?

MR. NEWTON: I can look into our vessel information booklet and give you the list of references that we put into that document.

MR. STETTLER: Okay. So nothing outside of what's in the, I'm actually looking at that now and so I see you've got Trim and Stability Book, direct calculation from the required wind yield criteria and then a cargo securing manual.

MR. NEWTON: That's correct.

MR. STETTLER: Okay, good. Did you use, in the physical development of the model or development of the electronic model, did you also use a, any other kind of electronic model for that, for example a HECSALV model or a GHS model?

MR. NEWTON: Well when I say our internal vessel information or first our internal vessel database file format, that is basically a HECSALV model. So we, if there was an existing HECSALV model we would have used it. If there isn't one then that's what we're putting together is we're putting a HECSALV model together for our, the program itself.

MR. STETTLER: Okay. So I guess then a specific question I would have for you, did you indeed use an existing or a preexisting HECSALV model for the

El Faro?

MR. NEWTON: I am trying to refresh my memory here by looking at our data files. But I believe that we had an existing model.

MR. STETTLER: Okay. And do you have, so you had given me a HECSALV model and I think in one of our earlier e-mail correspondences you mentioned that was used as a basis for an earlier, one of the early CargoMax models.

Do you, you mentioned validation criteria as you developed the CargoMax model for example. Do you have a specific listing or a set of criteria that you use, written criteria for example a list or a check sheet of some sort that you use as your criteria when you're developing a CargoMax model to determine whether or not it's a valid model or it's, you know, reasonably accurate?

MR. NEWTON: Yes, to some extent. And we've, it's something that we're always working on and always improving is our internal checks and our internal validation. But, yes, we do have some of those checks available.

MR. STETTLER: So do you have a list for example like a check sheet, something that we could get a look at?

MR. NEWTON: A check sheet specifically showing our internal validation?

MR. STETTLER: For example if I wanted to know, you know, I have your CargoMax model, your HECSALV model and I want to know, you know, how and I want to compare it to someone else's model what would I use? How, you said you used the Trim and Stability Book as one of your base line documentation items.

Do you have a criteria for how accurate your results need to be compared to the Trim and Stability Book, including such things as the tank tables?

MR. NEWTON: From a check sheet point of view I'm not sure that I would have something for what you're looking at. Normally when it comes to matching our data within our model to what's in the approved documentation it's a one to one set of data.

So we should have actual print outs or a validation folder that shows that someone went through and checked the numbers in our model against the documentation.

MR. STETTLER: Okay. So you have some kind of validation folder?

MR. NEWTON: Yes.

MR. STETTLER: Is that something we could get a copy of?

MR. NEWTON: I believe so, yes.

MR. STETTLER: Okay, thank you.

MR. NEWTON: And to clarify, on the model itself it looks like that this was an existing from an HECSALV model standpoint with the hull and compartment definitions it was the same model that was used for the El Yunque and El Morro.

MR. STETTLER: Okay. So do you know enough about the history of that HECSALV model to know if that model was also then used as the basis for the CargoMax model on those ships, those other ships?

MR. NEWTON: Again, there's different aspects of the model. But the specific HECSALV model that shows the hull and compartments and the geometrical breakdown on the ship then, yes, that's what was used. As far as the loads and the tank tables in individual weights and CGs and light ships I think that these were all different and they were all taken from their, the ship specific documentation.

MR. STETTLER: Okay. So the tank models and when I say model the stations and offsets that are in the HECSALV model were not, and correct me if I'm misstating this, does that mean, does your last statement mean that the tank stations and offset model in the HECSALV model that was not used to generate the

tank tables on the El Faro?

MR. NEWTON: I do not know.

MR. STETTLER: Okay. Very good. So now I have a question about, it's actually a follow on to a question Mr. Stolzenberg asked. And actually you had stated something about there was some dialogue between Herbert ABS Software Solutions and TOTE regarding the accuracy or the, how well the CargoMax was predicted observed vessel condition.

And I believe Mr. Stolzenberg had already asked for correspondence on that matter. It sounds like from what your statement was that was quite a while ago, early in the development or implementation of CargoMax on the vessel. Is that correct?

MR. NEWTON: That is correct.

MR. STETTLER: Okay. Has there been any ongoing discussion about the, how well CargoMax matches the observed vessel conditions say over the last few years?

MR. NEWTON: Recently, no, not that I'm aware of.

MR. STETTLER: Okay. Who, do you know or do you have a listing and perhaps this will come out in the correspondence who at TOTE Services you would typically interact with regarding CargoMax either from

an installation perspective or from a, if there were issues or procedure issues with the software?

MR. NEWTON: During, as I've been looking through my old e-mails a, we developed the software to SeaStar at the time for the El Faro. And our contacts there were Bill Weisenborn and Jay Wike. And going through the correspondence we gave them the approved software.

It was finally approved in early 2008. Since then we have provided them two very minor updates to the program since then. One in, I forget the exact dates but I think the last one was in 2010. Since then I honestly don't, have not had much interaction or much correspondence with SeaStar or with TOTE.

I know that currently we are working with them on their new ships and I believe that the project engineers here that are working on those projects have their own contacts with TOTE Services.

MR. STETTLER: Okay, thank you. And just basically to encapsulate that, does Herbert ABS Software when you develop for CargoMax installation for a vessel, does Herbert have any process for verification in terms of comparing observed versus calculated conditions or is that entirely up to the owner, operator, the customer to bring that up, to

bring that issue up to Herbert if such an issue existed?

MR. NEWTON: That's correct. We do not have any specific recommendations or procedures for checking that. Our main goal is to match the existing and approved documentation. And so if CargoMax is not matching observed drafts then it would indicate that the T&S Booklet is not matching observed drafts either.

MR. STETTLER: Okay. Very good, thank you. I think that's all I have along this line of questioning. Thank you, Mike.

MR. NEWTON: Okay.

MR. STETTLER: Hold on just a second, [redacted] do you have something?

MR. [redacted]: Yes. This is Lieutenant Commander [redacted] from the Coast Guard. I just had a couple questions. One is I heard you mention earlier about the LCG ships to get the drafts to be alignment. That was on the El Faro, correct?

MR. NEWTON: That is correct.

MR. [redacted]: Okay. I wanted to ask you how far did the LCG need to shift? Do you recall?

MR. NEWTON: Off of the top of my head I do not know. But I'm sure it is in our documentation here. I could pull it out if you gave me a few

minutes.

MR. [redacted]: Well maybe you could answer just along the lines of process not knowing the exact number. What did you do when you noticed the need for an LCG shift? Did you submit calculations to ABS?

Do you know if it exceeded any guidelines to require a dead weight or such things like that? Were those examined?

MR. NEWTON: If you give me one second I have the e-mail here. The process that was going on was we put together a, we had given the client, SeaStar at the time a preliminary version of the software and they were using it to evaluate their loadings.

And they were the ones that were doing this comparison. And so they, at this point had just come out of dry dock and had just received the T&S Booklet from HEC. They were using CargoMax to enter in their loading condition and they were seeing these differences.

Once they noted that then the correspondence at that point was mainly between SeaStar and Herbert Engineering to figure out what was going on because it was, again, the calculation, they were using CargoMax to get calculated drafts but they were, those same calculated drafts would be what would have come out

from using the hand calculation form within the T&S Booklet.

So that caused Herbert or I'm sorry, that caused Herbert Engineering and, to revisit their inclining study and their results from that at which time the error was noticed and then they calculated the correct LCG using that point and issued an update to the T&S Booklet which at the same time we updated the preliminary version of CargoMax for the client to include that new value.

MR. [redacted]: Okay. And to your recollection that update to the T&S Booklet was reviewed?

MR. NEWTON: Absolutely, yes.

MR. [redacted]: Okay. And the other question I had is a lot of the vessels in practice are using CargoMax on its own without much use of the Trim and Stability Booklet.

I'm wondering when you designed the software what are some things that you put in place to help with that type of arrangement to ensure that they meet their tank operating conditions that are in the Trim and Stability Booklet if they don't follow the written portion?

MR. NEWTON: I'm not sure I'm following.

MR. [redacted]: So if an operator that's using CargoMax to check a loading condition partially fills fuel oil or ballast tanks on the El Faro or on any other vessel that has CargoMax, is there any mechanism in the software to make sure that they're still in a safe realm and in compliance with their Trim and Stability Booklet?

MR. NEWTON: Yes. The main calculation from a stability standpoint is the calculation of the required GM and the comparison of the, I'm sorry, the calculation of the intact upright GM and the comparison to the required GM curve from the T&S Booklet.

MR. [redacted]: Okay. I understand. I do know it checks GM. But specific to the El Faro, do you recall the operating conditions related to partially filled tanks where there were limitations?

MR. NEWTON: I do not. I'm sorry, no.

MR. [redacted]: Okay. Well speaking generically then, if you had an operating restriction that said only one pair of ballast tanks or one pair of fuel oil tanks or something of the sort may be slack at any one time, is there anything that you would put in CargoMax different to make sure that they stay in compliance with that?

MR. NEWTON: Absolutely. If there are

express tank filling limits or items like that specified in the loading manual then we will generally put those into CargoMax so that if those values are exceeded or not met then they will appear in CargoMax as an out of range value or a warning value.

MR. [redacted]: Okay. Thank you. No further questions.

INVESTIGATOR STOLZENBERG: Mr. Gruber.

MR. GRUBER: Yes. Tom Gruber from ABS. Mike, there's been a reference to the Herbert ABS and the Herbert, the separate company. Can you tell me when the Herbert ABS arrangement was forged?

MR. NEWTON: 2010, 2011. I'm not sure the exact date. It was definitely prior to the work on the El Faro or I'm sorry, definitely after the work on the El Faro. We were Herbert Software Solutions at the time of all this, our initial CargoMax program development.

MR. GRUBER: All right. Thank you for that clarification. The other question I had was you said you gave SeaStar a copy of the program, a preliminary copy of the program to review and work out for their comments.

Was that submitted to ABS at the same time or was that submitted to ABS after that happened?

MR. NEWTON: We went through a number of submittals during the approval process with ABS. I believe that this issue with the light ship was prior to our first ABS submittal. But I would have to double check.

MR. GRUBER: All right. Thank you very much. No more questions from me.

MR. O'MEARA: This is Dennis. I don't have any questions.

INVESTIGATOR KUCHARSKI: Hi, Mr. Newton, Mike Kucharski here. Did you, you mentioned that there was a discrepancy earlier on between the observed and the calculated drafts. Is that correct?

MR. NEWTON: I'm sorry. Say that again.

INVESTIGATOR KUCHARSKI: There was, you were aware earlier of a discrepancy between the, I think you said it was in the LCG and there was a discrepancy between the observed drafts and the calculated drafts. Is that correct?

MR. NEWTON: Yes, that was reported by SeaStar based on the preliminary CargoMax that we had given them.

INVESTIGATOR KUCHARSKI: Was there any discrepancy noted on list of the vessel, you know, when she was loaded out that she had some kind of a list

discrepancy between what was calculated and what was actually observed?

MR. NEWTON: Not to my knowledge, no.

INVESTIGATOR KUCHARSKI: Okay, thank you. No questions, no further.

MR. VAN RYNBACH: This is Eugene. I have no questions for Mike. But this issue of the change in the LCG, Herbert Engineering has information on that if needed at some point.

INVESTIGATOR STOLZENBERG: Thank you, Eugene. This is Eric Stolzenberg, NTSB. We'll make a request for some of the surrounding pertinent documentation regarding the initial LCG change.

MR. VAN RYNBACH: Okay, thanks.

INVESTIGATOR STOLZENBERG: Mr. Schilling, anything to add?

MR. SCHILLING: Yes, just two clarifications. One, on that point I just wanted to clarify on the LCG the issue was identifying an error that was made in the original incline. It wasn't a matter of trying to adjust the LCG to make the observed drafts match the calculated drafts.

It was a matter of researching the issue and finding out where there might have been an error made in some other documents. Once the inclining was

corrected and approved it was incorporated in the T&S Booklet and then that was incorporated in CargoMax and then the drafts and trim worked out to match.

So it was a matter of identifying an error that incurred in correcting that and getting it approved. That was kind of the flow. Getting back to Jeff Stettler's comments on the HECSALV model, just to clarify in the HECSALV model there's hull and compartment geometries.

And it's quite common to have the tank tables that, the capacities, the centers of gravity and the free surface entered as just tables from the T&S Booklet. So there may be some differences in the compartment geometry or volumes calculated from compartment geometries and those in the T&S Booklet.

They're usually, they have, you know, the goal is to make them within tolerance if those compartment geometries are actually used for any calculations related to CargoMax. If they're not used in any of the calculations of CargoMax they may be there simply to provide geometry for graphics and things like that.

So they're, what is, needs to match the T&S Booklet is usually the tank tables themselves and that's what's entered directly off the tank tables, I'm

sorry off the GMS Booklet. Hopefully that clarified a few things. That's all.

MALE PARTICIPANT: If I could just, I believe what I just heard, Spencer say was that the tank therefore, I think you just said that the tank tables in CargoMax were actually entered directly from the Trim and Stability Book?

MR. SCHILLING: I believe that's the case.

MALE PARTICIPANT: As opposed to going through the HECSALV model?

MR. SCHILLING: I believe so.

MALE PARTICIPANT: Okay. So I guess I would ask as verification from that from Mike either now or a follow up.

MR. NEWTON: I will clarify that to my best ability. I believe that when we put the preliminary version of the software together we had variable tank information for the tanks. So the VCG and the free surface values would be calculated based on the filling level within that tank.

Where those tables originally came from I do not know right now. But I think that we could probably determine that. When we submitted the program to ABS for approval, ABS came back with a comment saying CargoMax was using variable data that was not in the

T&S Booklet.

And so that caused a whole new discussion with ABS and with SeaStar at which point it was decided that HEC would update the T&S Booklet to include the variable VCG and free surface value, at least the variable VCG. I don't believe, I'm not sure what the free surface values were.

But basically HEC updated the T&S Booklet at that time to include variable tank tables and then we updated and resubmitted the program to ABS with those values now being referenced within the T&S Booklet.

MALE PARTICIPANT: Okay, thank you.

MR. SCHILLING: And this is Spencer. I have nothing else.

INVESTIGATOR STOLZENBERG: Mr. France?

MR. FRANCE: Nothing, thank you.

INVESTIGATOR STOLZENBERG: Okay. This is Eric Stolzenberg, NTSB. If we can let's remember to state our name even it's just our first name before speaking so the transcriber can more clearly produce a transcript.

And then if I could get back to the discussion between Mike and Jeff Stettler, just to clarify for myself we'll get an action item to clarify the tank input sources to HECSALV/CargoMax. And as I

understand it the question is whether the input data comes from the tank tables from the T&S Booklet or from the whole geometry file. Is that correct, Mike?

MR. NEWTON: Yes. And so in this case what I can tell is we had variable tank information within our model that existed and we used that in the preliminary CargoMax. That information was not available in the T&S Booklet.

And so when it was submitted to ABS for approval they noted that the T&S Booklet did not have variable data. CargoMax did have variable data and so they requested that either CargoMax remove the variable data or the T&S Booklet be updated to include that variable data.

And the decision was made by SeaStar to have the T&S Booklet updated to include that variable data. The actual origin of that variable data I am not 100 percent confident, but I believe that it was taken from the existing HECSALV model that we had of those tanks and it was probably the same that was used in the previous El Morro and El Yunque programs as well.

INVESTIGATOR STOLZENBERG: And Eric Stolzenberg. And when we say taken from the HECSALV model is that, does that mean the tank geometry within that model?

MR. NEWTON: Yes, it was calculated from the geometrical tank definition that we had in that model out of those tanks.

INVESTIGATOR STOLZENBERG: Okay, thank you. I'm not as familiar with the program. So I just wanted to understand. Okay. Mike, does Herbert ABS Software produce any products or get involved with any load line assessment work?

MR. NEWTON: Our HECSALV design software can be used in load line calculations. But we don't, that would be from an engineering, you know, if an engineering company or a naval architecture company had HECSALV they could do some of those calculations.

But I'm not, we don't have any specific tools for it, no.

INVESTIGATOR STOLZENBERG: Okay. But if another company had purchased the HECSALV software they could, might be able to use it to assist them in a load line assessment?

MR. NEWTON: I believe so, yes.

INVESTIGATOR STOLZENBERG: Okay. Along the same lines, what, as I understand it and [redacted] [redacted] Coast Guard brought this up, tools used aboard the vessel by the crew for stability assessment would include the stability software or instrument, in

this case CargoMax for the El Faro and the Trim and Stability Book found onboard.

Are both CargoMax and the Trim and Stability Booklet approved by Class society?

MR. NEWTON: Yes.

INVESTIGATOR STOLZENBERG: And how is CargoMax, the installation once it is approved and onboard, in general how is it tested and certified and recertified and how often does it have to go through that process?

MR. NEWTON: The actual inspection being done by Class society generally consists of the inspector coming onboard viewing the CargoMax installation verifying that it's installed on the nominated computers and then the actual validation of the program is basically taking the vessel information booklet which was stamped in the CargoMax approval process, that contains printouts from CargoMax for representative loading conditions.

So the inspector is wanting to make sure that the program itself when given those same representative loading conditions the results are matching against the stamped version that are of those printouts from the vessel information booklet.

INVESTIGATOR STOLZENBERG: Okay.

MR. NEWTON: And for frequency I believe that it's an ABS inspector's or it's, I'm not sure what the actual ABS inspection frequency time line is. But I believe that the inspectors request to see that comparison whenever they come onboard.

INVESTIGATOR STOLZENBERG: Eric Stolzenberg. Well with regards to yourself, how often have you been onboard for testing and certification just in general for CargoMax software aboard commercial vessels?

MR. NEWTON: Generally, I've done that process many times. Not so frequently now. But normally whenever we deliver a new software, especially for a new vessel delivery we will do the installation in the ship yard and make sure that we are there for that first ABS inspection.

There's usually a pretty tight time line between vessel delivery and final CargoMax approval and getting everything installed and approved onboard. So we like to be there for our clients and for the ship yard to make sure that first inspection prior to delivery goes smoothly. So I've done it dozens of times myself.

INVESTIGATOR STOLZENBERG: So it's safe to say you're familiar with the process at least when, at the time frame you were doing it more often?

MR. NEWTON: Yes.

INVESTIGATOR STOLZENBERG: One thing we've learned on the El Faro from interviews of the crew is they seemed to be very familiar with the CargoMax software and are using it as primarily, the primary means to judge and assess the stability condition of the vessel. In your opinion, with some of your previous experience is that, does that surprise you?

Do you consider that normal? I would just like your opinion on what you've seen out there.

MR. NEWTON: I think that is extremely normal, very normal.

INVESTIGATOR STOLZENBERG: Okay. Another question I have is were you involved with supplying the shore side version of the El Faro's CargoMax to SeaStar personnel in Jacksonville?

MR. NEWTON: Yes. From my e-mail I've spent a lot, a number of e-mails back and forth with again Jay Wike and Bill Weisenborn. They were my two main contacts during the delivery and subsequent support of this.

My impression was they were maintaining the CargoMax software on their shore side computers for all three of their vessels.

INVESTIGATOR STOLZENBERG: Okay. Does the

shore side version of this program also need to be Class approved to your knowledge?

MR. NEWTON: There is no difference between the shore side version and the onboard version.

INVESTIGATOR STOLZENBERG: From a software standpoint? When you say that you mean from the delivered software?

MR. NEWTON: That's correct. So the program itself is approved for onboard use and that's what the Class approval is for. And we give that same version, we don't have any license fees or any license restrictions.

So the clients are allowed to install and use the software on any number of computers, on the ship or in their on shore offices.

INVESTIGATOR STOLZENBERG: So is it safe to say you didn't deliver two versions you delivered one version and they could copy it or were two versions delivered, typically delivered?

MR. NEWTON: It was one version of the software.

INVESTIGATOR STOLZENBERG: And does that come on a CD, on a flash drive? What's the typical delivery means?

MR. NEWTON: At this time we were delivering

a lot of CDs, though I believe looking in my e-mails we would deliver the software via CD.

INVESTIGATOR STOLZENBERG: Okay. And I think you mentioned earlier that to your knowledge there was a couple of updates that have been done since the original installation the last time in 2010. Would the shore side have been given their own CD or would it be the single CD again going to SeaStar?

MR. NEWTON: For these updates my e-mails seem to indicate that the new CDs were sent to the shore first and then they were distributing those updates to the ship themselves.

INVESTIGATOR STOLZENBERG: Okay. And regarding, we've learned through some interviews that the vessel is loaded through shore side operators and then subsequently reviewed by the ship board crew through CargoMax. So it's loaded through CargoMax ashore on one software installation and then checked aboard the vessel on another software installation by the mates and officers aboard the vessel.

In your opinion, do you think it's an issue to not have Class approval of the shore side software?

MR. NEWTON: Again, I don't think that there's a distinction from our side. The software is approved.

INVESTIGATOR STOLZENBERG: I'm trying to get a practical understanding of it versus a regulatory understanding. From this point, in other words what's the practical issues that may arise, you know, skipping the regulatory side or the fact it isn't approved.

Is there a practical issue you could see develop from a shore side installation using software that doesn't have Class approval or updates, in other words, to our knowledge nobody updates the shore side installation except you're saying you sent it there first. But aboard the vessel there's a verification, validation check by Class that's not done ashore.

So how, in your opinion, how would we know the shore side program matches the vessel program, excuse me, vessel program? Actually let me rephrase. I think I've rambled a little on this question. What I was looking for is whether there's a practical difference.

And I think you just said as long as the software is the same it's the same. But I would like your opinion. What I'm trying to look for is whether it's an issue that shore side installations of these that are loading a vessel are not Class approved and if you have an opinion on that?

MR. NEWTON: Okay. Specifically for the El

Faro we delivered and we had, we received ABS approval in February of 2008. And we delivered the software and I am confident that the guys using the software on the shore were using the same version that was used on the vessel.

In subsequent updates of which we provided two to my knowledge, those changes did not have any direct affect on any calculated numbers within the program. So A, I think that SeaStar was in a position to make sure that their programs were the same both on the shore and on the ship even with these updates.

And even if they weren't the results of the calculations if one version was out of sync with the other, there should have been no appreciable difference in what their programs were calculating.

INVESTIGATOR STOLZENBERG: Thank you. That answers the practical side I was looking for. Let me, before I go on to another topic anything to do with CargoMax and the shore side installation I'll ask one more question which is to your recollection did you provide any training to, I guess it was at the time SeaStar, any training to the shore side personnel at SeaStar or at a later date any training to anyone at TOTE Maritime ashore?

MR. NEWTON: To my knowledge and from what

I've reviewed focusing on the El Faro there was no specific training offered or taken by SeaStar at the time although I can say that we were working pretty much hand in hand with our main contacts there Bill and Jay and they were very strong, what I would consider strong CargoMax users at the time.

And the impression I got was that they were handling a lot of the direct correspondence with the crew onboard and were assisting in CargoMax issues at the time.

INVESTIGATOR STOLZENBERG: Okay. And at this time under TOTE have you dealt with Don Matthews or Mr. Rodriguez ashore regarding CargoMax? Are they familiar?

MR. NEWTON: I personally have not.

INVESTIGATOR STOLZENBERG: I'm sorry.

MR. NEWTON: I personally have not, no.

INVESTIGATOR STOLZENBERG: Are you aware of any others at Herbert ABS Software who have?

MR. NEWTON: I am not aware but it is possible.

INVESTIGATOR STOLZENBERG: Okay.

MR. NEWTON: I would have to ask the project managers that have been working on the new buildings.

INVESTIGATOR STOLZENBERG: All right. Thank

you. I will push it back around to my colleagues starting with the Coast Guard. Mr. Stettler, any questions?

MR. STETTLER: Sorry. I asked a question on mute. That didn't work very well. Mike, could you just clarify you said the two folks from TOTE that you dealt with that seemed very knowledgeable was Wisenborn, is that correct?

MR. NEWTON: Yes.

MR. STETTLER: And the other one was White?

MR. NEWTON: Wike, W-I-K-E, I believe.

MR. STETTLER: Wike, okay, great. Thank you. I have a follow on question regarding, talking about the inclining experiment and I just wanted to clarify something when we spoke to Spencer Schilling and Eugene Van Rynbach last week they mentioned that the calculations that were completed to support the inclining experiment were conducted or performed in a software called HEC Incline.

And I wanted to verify a couple of things. Is that just a special application of HECSALV or is that an application of CargoMax?

MR. SCHILLING: This is Spencer. And that's a separate application entirely. It's not actually part of the HECSALV engine or product. It's a separate

product entirely.

INVESTIGATOR STOLZENBERG: This is Eric Stolzenberg. Mr. Spencer, although I appreciate the information initially I would like to have Mike answer the question because although it can be answered by yourself we're looking for people's personal knowledge as well.

MR. SCHILLING: Okay.

MR. STETTLER: Thank you, Mike.

MR. NEWTON: Yes. So as Spencer said, it is a separate program. It's a stand alone program that was targeted to kind of simplify and provide a step by step process for doing an incline experiment.

It has a little bit of HECSALV data built into it, basically the hydrostatics tables can be taken. But it is intended to be a stand alone software.

MR. STETTLER: Okay. So, you're right, I put off asking this question of Mr. Schilling because I figured it was a software product and we should ask it of you. That being the case it sounds a little bit like CargoMax in the sense that there are tank tables and there's hydrostatic tables.

So the program does not do direct calculations. Is that true?

MR. NEWTON: I am not 100 percent familiar with the incline software. But my impression is that it's all tabular based so it would be based off of tabular hydrostatics tables and tabular tank tables, not geometry.

MR. STETTLER: Is there a point of contact at Herbert ABS Software that could speak about HEC Incline?

MR. NEWTON: I think the answer to that is at this point HEC Incline is not, well I don't know now. There is, I'm not sure if we are directly responsible for HEC Incline or if Herbert Engineering is at this point.

MR. STETTLER: Okay. All right. My questions were really going to be centered around the validation of that software for use. So I guess if you don't know the answer to that we'll move on. Thank you, Mike.

MR. NEWTON: Okay.

INVESTIGATOR STOLZENBERG: Jeff, if you don't have any other questions I'd like to give the opportunity back to Spencer and Eugene because they did sound like they had some knowledge they might be able to add here on this topic.

MR. STETTLER: That's absolutely fine. And

we could perhaps follow up later with the right person. Thank you.

INVESTIGATOR STOLZENBERG: Okay. Spencer.

MR. SCHILLING: Yes, this is Spencer. The Incline program was developed originally for Coast Guard for doing inclinings on their vessels. It was written in DOS and converted to Windows in early 2000.

It had the capability to use in terms of calculating displacement and hull properties of entering hydrostatic values that are calculated in external program. You can enter hydrostatic tables and have it interpolate and give draft to get your displacement and KM and LCB or in the Windows version you can actually import an HECSALV hull model and do the calculations for displacement directly in the program.

I'm not sure which feature, which option was used for the El Faro in 2005 and '06 for that inclining. I would have to look back at the report to see. Likewise the tables of data and things you can use internal tools to create the tables which is basically weights to add and deduct and actually do some sample load cases.

You can enter tables of data much like you would in HECSALV although they are separate, it's a

separate data file, not the same data file or you can just, you can do it externally and provide your report separately. In terms of verification certainly at the time of development and conversion it went through checks and approval processes with Coast Guard engineering department.

MR. STETTLER: The individual software you mean as opposed to the El Faro validation. Is that correct?

MR. SCHILLING: Well, yes. I mean so when the calculation is done is produces a report and that then is submitted to Class for approval. So they would go through and verify the calculations, you know, the drafts were done correctly, the dry, the water line that's used for the displacement calc was derived correctly.

They would I would imagine also take that water line and put it in their own model and verify displacements and hydrostatic properties for that water line. Certainly they are verifying the weight movements and the tangent moment (phonetic) curve. I mean all that's in the report and it needs to be verified then.

MR. STETTLER: Okay. So I guess, Spencer, we'll work this off line then. I'd like to have some

follow up about that separately and we can talk about that later then. Thank you for clarifying that though.

MR. SCHILLING: Very good.

INVESTIGATOR STOLZENBERG: This is Eric Stolzenberg. Jeff, I would like to give you the opportunity to continue on the previous topics then we'll continue along with the rest of the parties along that, those topic lines earlier, CargoMax and installation shore side.

MR. STETTLER: Yes, my remaining questions I have some detailed questions about CargoMax, specifically dealing with the loading function and the cargo securing function. So I think I'll hold off on those until we talk about those.

INVESTIGATOR STOLZENBERG: Okay. Mr. Gruber.

MR. GRUBER: Tom Gruber here. Earlier, and it's a follow up to Stolzenberg's question, you indicated that HECSALV could be used in the load line assessment process. Could you explain how that would work?

MR. NEWTON: I'm sorry. Just from an engineering or a naval architecture standpoint HECSALV can be used to calculate displacements from a hull model or use the hydrostatic tables to look up the

displacements at a given draft. That was the only, I'm not fully familiar with the full load line assessment process.

But I know from a naval architecture standpoint it can provide calculations for drafts and displacements and CGs for a given hull.

MR. GRUBER: Okay, thank you. Next question, you said you've attended the vessel during the installation process of the programs?

MR. NEWTON: Generally speaking, yes.

MR. GRUBER: Okay. Is there any verification against the actual loading condition, the actual drafts of the vessel versus the program when you're doing that installation?

MR. NEWTON: Occasionally. But it's not a, generally it's not something that we're focusing on. Normally if we're on a new ship and a new delivery things are in such a flux in the ship yard that it's not really a focus. Not a lot of tanks are loaded. Not a lot of information is available on trying to match that specific loading condition.

We do get requests from clients and operators after some time when they're doing comparisons and we'll assist them in those types of investigations after installation.

MR. GRUBER: Okay. Just two questions about updating of the program. You said that since the 2008 approval of the HECSALV program for the El Faro there were two updates to the program.

MR. NEWTON: That is correct.

MR. GRUBER: Were these approved by Class?

MR. NEWTON: They were not.

MR. GRUBER: Okay. And you said that when they were, that the updated programs should, there shouldn't be any appreciable difference between what the, was onboard before and these updated programs. How do you define an appreciable difference?

MR. NEWTON: That's, very specifically it's the calculation that we see or the comparison that we see from the approved vessel information booklet loading condition compared to the results in the new version of the software. From a company standpoint, we are very focused on not changing any calculations or any programming aspects that will change calculations that would result in, you know, actual numbers of calculations being changed.

And I guess the changes, these changes themselves, the two updates that we provided were considered small and minor changes that were not directly applicable to any specific stability or

strength calculations. The one main or the one change was basically allowing the program to accept higher container, individual container weights, which again wasn't changing any stability or strength calculations.

And the second change was, I forget what the second change was. I'm looking for it right here. The second change was just an update to our battery (phonetic) file import tool that was allowing, that was just an update in how information was being processed by the or how information was being imported into the program.

MR. GRUBER: Okay. And when you update the program do you change the version number and the date of the actual program of the software?

MR. NEWTON: Yes.

MR. GRUBER: And are you aware that the Class approval calls out these version numbers and dates for the approved versions onboard?

MR. NEWTON: I'm sorry. Say that again.

MR. GRUBER: Are you aware that when Class approves them that the software version and date are noted as part of that approval?

MR. NEWTON: Yes. They're, those values are noted in the approval letter.

MR. GRUBER: So in this case the official

approved versions of the software are no longer on the vessel. They've been superceded and not approved.

MR. NEWTON: I guess that's correct. We have plenty of correspondence and plenty of cases both for the El Faro and for others where minor changes like this were deemed unnecessary for reapproval and they, you know, if we had to reapprove the software any time we fixed, you know, just a typo in the software or a bug in the software or added a new feature and had to get reapproval then it would be very restrictive from our standpoint.

MR. GRUBER: I can understand that. But just from a technical standpoint we basically have, the understanding now is that the software did not go through the full approval process because it's been changed.

MR. NEWTON: That's correct.

MR. GRUBER: Okay. Thank you. That's all I have.

MR. O'MEARA: This is Dennis at TOTE Services. Getting back to the line of questioning that Mr. Gruber was on, do you actually have correspondence indicating that either of the two minor changes done to the CargoMax software are subsequent to the 2008 approved version were deemed, where the situation was

deemed unnecessary that either of those two go through a formal approval process?

MR. NEWTON: That's, I'm looking through my e-mail now. I don't think we have any specific e-mails to that extent. We probably have e-mails from similar cases for updates for a number of different CargoMaxs where this was not necessary.

Let me take one step back. I do have one e-mail I want to look at before I finalize my answer. No, I do not have any specific e-mail saying that it was not required for reapproval from ABS for these changes.

However, I will say that this type of change has always been provided to our, these type of small changes have always been provided to all of our clients with the expectation that if we're not changing, if none of the calculated values or approved values are changing within the software then the approval is not directly affected.

MR. O'MEARA: Okay. And is there a, I mean is there a general letter of understanding or is there a general some kind of understanding that is well known between you and ABS that in fact is true or that is true in, I mean I guess what I'm getting at is what's the, where is the line drawn?

Where is the forcing function then to obtain reapproval on CargoMax? It sounds like your understanding of it is that if there's no change to the calculated values then there's no need to obtain additional approval. But --

MR. NEWTON: That's correct. It is a, it is kind of a case by case basis. But the general understanding has always been, at least from our side, is that if we, if the program, if there again, if there are no changes to the calculated values within the program, if there have not been any data changes that result in results being, calculated results being changed and if there have been no programming changes which result in values being changed that we would be allowed to update the software to that vessel without directly affecting the approval.

The one caveat to that is for now most oil carrying tankers the program version and date is put onto the load line certificate itself and so we've been managing those in a much tighter manner and making sure that any change to data or version for those types of vessels is either reapproved or again specifically identified by ABS as being acceptable before we provide those updates to the client.

MR. O'MEARA: Okay. So then would it be

safe to assume then that the, with the exception that you just mentioned that the policy or procedure that you follow with regard to reapproval of CargoMax versions that don't affect calculated values is consistently applied across all of your clients?

MR. NEWTON: Yes.

MR. O'MEARA: Okay. All right. I don't have any other questions on that topic. Thank you.

MR. VAN RYNBACH: This is Eugene. I just want to clarify, Mike, if you can that the CargoMax program is a compiled program. In other words, what they receive on the CD the operator has no ability to customize that or change that.

So in other words, the people on the shore could not modify their version to be different than what's on the ship. Maybe you can speak a little bit about that. Thanks.

MR. NEWTON: Okay. Technically the software has two identifying features or versions or dates to it. As Eugene said, the CargoMax software itself is an executable and it has a version, a major version, a minor version and recently a build version.

And so whenever new features are added or new forms are done or new calculations are required for different ships the program is, the CargoMax program

itself is in a constant state of development and upgrade. And so if and when we build new executable files the build number and the version number, well the build number itself will mainly change over time.

For a given vessel there is also a vessel specific or ship specific database that is a proprietary kind of a binary file that is not editable by any clients. There is some checks within the software to make sure that file does not get corrupted or changed or modified in any way.

And that database has again a date and time or I guess maybe just a date stamp associated with it. So within the program, within the CargoMax program there is a help, about CargoMax screen in which a user can identify the program version and version number and program date as well as the vessel specific database date.

MR. VAN RYNBACH: Now, Mike, I want to clarify that. The operator using the program cannot make any changes once he receives the CD?

MR. NEWTON: That is correct. As I said --

MR. VAN RYNBACH: So the people on the shore couldn't change the program to be different than the ship if they had the same CD? In other words, if they took the same CD and they used it to install on two

different computers they have no ability to customize that version?

MR. NEWTON: That is correct.

MR. VAN RYNBACH: Thank you. That's all.

MR. SCHILLING: This is Spencer. I have a question for Mike, just a follow up to the issue of the updated versions with the minor changes. Can you speak a little bit about how maybe a surveyor when he comes on annually or on his regular visits would satisfy himself that the ship's using approved calculations?

MR. NEWTON: Again, it would be the same process that we said from the initial inspection and any subsequent inspection. The surveyor would look at the software itself, identify it, make sure that or look at the vessel information booklet which should have an ABS stamp on it that has printouts that were approved at the time of the program approval.

They would input those loading condition values into the software running on the ship and verify that the calculated results were identical to what was in the stamped booklet.

MR. SCHILLING: Even if there was a small change in the release date or something on the installed program versus the approval letter he is able to verify the calculated results then that would

satisfy him?

MR. NEWTON: That's correct. We believe that the actual version build number and date and the database date, those will change if minor changes have been made. But as long as the calculated results are identical then that inspection should be met.

MR. SCHILLING: Thanks. That's all I have.

MR. FRANCE: And this is Willa France. Is it my turn?

INVESTIGATOR STOLZENBERG: Yes, it is, Mr. France.

MR. FRANCE: Okay. I just had two questions. One was really a clarification. I think going back some way, you know, Jeff had asked a question about who Mike interacted with at TOTE. And then somehow or another the answer came back that it was these fellows Bill and Jay.

But I just want to clarify. Bill and Jay are they TOTE people or SeaStar people?

MR. NEWTON: At the time this was all SeaStar. So they were SeaStar employees.

MR. FRANCE: All right. And then did you have interaction, you personally with TOTE afterwards?

MR. NEWTON: Afterwards as in within the past few years?

MR. FRANCE: Yes.

MR. NEWTON: Very little if any.

MR. FRANCE: And then the other question concerns these two modifications to the CargoMax. And I did not hear or understand correctly what the second modification was. The first I understood was you could alter the inputs for container weights.

But the second could you explain that, Mike, in a little more detail? Was the shore input to the program I thought.

MR. NEWTON: Right. That's what I'm trying to determine. And I believe looking at my e-mails here and the notes that I took I think I have actually misstated and it was only one update and it was focused on the, allowing larger or higher individual container weights.

I apologize. But I don't know why I have been saying two.

MR. FRANCE: Nothing more.

INVESTIGATOR STOLZENBERG: Thank you. This is Eric Stolzenberg. I'd like to just follow up very quickly on some of the line of thinking about the approval of the updates by Class. Just to be clear for myself, the surveyor who comes onboard, I'm not sure that this was answered earlier, how often does, to your

knowledge, does a surveyor recertify the program with the verification validation?

MR. NEWTON: As I said before, I'm not sure what the actual ABS requirements are or Class requirements are. My impression is it's supposed to happen once every five years. That may be incorrect.

I'm also under the impression that it's up to the surveyor's discretion if and when they come onboard to whether they want to check this or not and if they do want to check it then the ship should be, the crew itself should be, you know, available to make that check.

INVESTIGATOR STOLZENBERG: Okay. So we'll research that through documentation of the vessel and through ABS. Thank you. Just looking for what your understanding was.

We move, let me ask one other question. Is anyone else, Coast Guard, I know this line went on for a while, do you have any questions regarding the approval of the updates?

MR. STETTLER: Nothing, Jeff Stettler. Nothing from me.

INVESTIGATOR STOLZENBERG: Okay, and Mike Kucharski.

INVESTIGATOR KUCHARSKI: This is Mike

Kucharski. We're just talking about the Trim and Stability Book, correct?

INVESTIGATOR STOLZENBERG: Well we're talking about updates to the CargoMax program. But if you would like to kick off questions regarding the Trim and Stability Booklet let's open that topic up.

INVESTIGATOR KUCHARSKI: Well on that CargoMax actually was just wondering about the cargo securing manual. I guess we'll get a, we'll get to lashings and strengths and everything else.

INVESTIGATOR STOLZENBERG: Actually I would suggest, this is Eric Stolzenberg. Mike, if you want to go to lashings and strength let's breach that topic right now and we'll go around with it and you start off please.

INVESTIGATOR KUCHARSKI: Okay. Great. I guess the first question, Mr. Newton, do you have, are you able to look at the CargoMax program for the El Faro?

MR. NEWTON: I have one here, yes.

INVESTIGATOR KUCHARSKI: Okay. Is it opened up right now?

MR. NEWTON: I do. I have it open.

INVESTIGATOR KUCHARSKI: Okay, great, great. Can you take me through what some of these

abbreviations are on the container build up diagram? I struggled through the help, the self help if you will for the CargoMax and I'm not sure if I understand what all the abbreviations are.

So I see negative numbers and numbers in red when I pick out individual days. So I mean if you want to just, you could pick one day out and look at it then maybe you could sort of explain that. Would that work?

MR. NEWTON: Okay. I'm not sure if we're looking at, are you looking at a specific loading condition?

INVESTIGATOR KUCHARSKI: Yes, it's the final load for the El Faro on departure from Jacksonville. But it's okay, I mean if you just walk me through what the numbers are, what they pertain to in the particular day by day. It's all the same terminology it's just lash, MGN and then weight and BCG are self explanatory.

But maybe STR and MGs could you just walk through those maybe?

MR. NEWTON: Okay. So I believe you're looking at a detailed day and you're looking at the table underneath of it and to the right, I guess.

INVESTIGATOR KUCHARSKI: Yes, just the table underneath. I'd ask a question on the table to the right which has a list, yes. But just for now the

table beneath the day.

MR. NEWTON: Okay. The first thing I will do is I will point out if you right click on the table a context menu will show up and it will show you a larger key to what the information is that's shown there. So the full list is lashing system, lashing margin, stack weight, stack VCG, stack strength margin.

INVESTIGATOR KUCHARSKI: Okay, I see that now. And so on a lashing margin if we could start off with lashing margin, if I see a negative number there what does that mean?

MR. NEWTON: That would mean that the lash system that is selected for that stack is not sufficient to meet the calculated lashing requirements for that given set of containers.

INVESTIGATOR KUCHARSKI: Okay, great. And at the bottom of that same table where it's now stacked strength margin it's abbreviated SGR, MG, is that stack strength margin? Is that what I'm looking at?

MR. NEWTON: Yes. So the strength margin is a comparison. In the container securing manual there should be an allowable maximum stacked weight for each stack. And the strength margin is just that allowable minus the total weight of the containers entered for that stack.

INVESTIGATOR KUCHARSKI: Okay. So does that figure into crushing of the container or what does, if I see a negative number there what is it telling me?

MR. NEWTON: A negative number on the strength margin means that there are, that stack has a sum total of containers that weigh too much for that location based on the cargo securing manual.

INVESTIGATOR KUCHARSKI: Okay. And if it does have a negative number like that does that indicate that the lashings may be a problem or does it indicate that the container may be, it may crush?

MR. NEWTON: To clarify, if there is, the strength margin value has no bearing on the lashing being applied. That is strictly a vertical weight summary independent of what lashes are selected.

And my, I don't want to speculate on where those numbers come from in the cargo securing manual. But it is independent of the lashing.

INVESTIGATOR KUCHARSKI: Okay. You touched on something that I was going to ask. So the calculations that I'm looking at on CargoMax for the lashings for what's called the container build up part of the CargoMax program, are those calculations come from, are they predicated on the calculations in the cargo securing manual?

MR. NEWTON: That is correct. They should reflect the same values you would see in the cargo securing manual.

INVESTIGATOR KUCHARSKI: Okay. And while we're on it, is the only revision, I have Revision Zero. Have there been any other revisions to the cargo securing manual?

MR. NEWTON: The document that we have on record is, I believe it was Rev. Zero but let me just check. Yes, we have a, an ABS approved cargo securing manual from 20 January 2006, Revision Number Zero, effective date 12 December 2005.

INVESTIGATOR KUCHARSKI: Okay, great. We're on the same page before I ask too many questions. Thank you for that clarification. And were the lashing calculations reviewed by ABS?

MR. NEWTON: No, they were not.

INVESTIGATOR KUCHARSKI: Did, was there any other group or agency that reviewed the lashing calculations?

MR. NEWTON: Not to my knowledge.

INVESTIGATOR KUCHARSKI: Okay. Now I'm going to try to, and I apologize skip to the cargo securing manual just a little bit. But I want to apply it actually to the CargoMax.

There were calculations I see for the container stacks which show different GMs. I think GM of four and nine is pretty standard on the vessel. And then it talks about lashings and no lashing value.

But in the CargoMax program I see lashings and then TL, which I believe is twist lock. Is that what the TL stands for?

MR. NEWTON: Yes.

INVESTIGATOR KUCHARSKI: Okay, so would that be, I hate to do this leap of faith. But, so when I'm looking at the cargo securing manual if it says no lashing it is, it really is secured by a twist lock also?

MR. NEWTON: I believe so, yes.

INVESTIGATOR KUCHARSKI: Okay. Thank you. And if there's an intermediate value of GM. So what I see in the cargo security manual I see GMs through again different stack heights and with wind, no wind. And I see GMs of four and nine used frequently for the weight limitations.

But in CargoMax it's calculating intermediate values. Is that correct for GM?

MR. NEWTON: I believe so and I can direct you to the specific numbers that it is using. If you

go in CargoMax to the tools menu and go to options. And then there is a tab for container build up. You'll see that there's lash parameters there at the bottom where you can specify, the user can specify the estimated sailing GMT which would be used in the calculations as well as the estimated sailing drafts.

INVESTIGATOR KUCHARSKI: Okay. So whatever was plugged in here the GM is less than that or more than that they would have to change the GM at each, every time they do the lashing calculations?

MR. NEWTON: That's correct. It is, in the program it is, we make them enter that value because we didn't want the lashing calculations to be updated every time they changed the containers.

So if you started with an empty ship and they were planning a load and they started at, you know, with bay, the furthermost bay the GM at that point in the program is obviously not going to be their final sailing GM. So we wanted them to have an indication of what they were loading was going to be acceptable in their final configuration not necessarily the one specifically within CargoMax at that time.

INVESTIGATOR KUCHARSKI: Okay. So I don't know if that was a direct answer to my question. So for every load out if the GM changes must they then

update the GM in this tools options continue build up menu. Must that be changed each time for different GMs?

MR. NEWTON: Yes, for the most accurate lashing calculations, yes.

INVESTIGATOR KUCHARSKI: Okay, great, great. And were the lashings, these lashing calculations were they all packaged in all sent off the ABS at the same time the CargoMax was approved for the stability calculations?

MR. NEWTON: I believe so, yes.

INVESTIGATOR KUCHARSKI: Okay. So they weren't added on or anything like that? Everything was sent but to your knowledge ABS just reviewed the stability calculations but not the cargo lashing calculations?

MR. NEWTON: That's correct.

INVESTIGATOR KUCHARSKI: Okay. Another specific question. Some of the bays now when you, going back to the cargo build up, I'm sorry, the container build up section there's a table beneath which you just walked us through, thank you.

And then a table to the right which has lengths and then if you down to the table it has the size of the container is there any reason, length of

the container. Is there any reason that some of the bays don't have lengths for the containers in there?

MR. NEWTON: I'm sorry, they don't have lengths?

INVESTIGATOR KUCHARSKI: Yes.

MR. NEWTON: I would have to look at your specific loading condition to answer that question.

INVESTIGATOR KUCHARSKI: Would you say that the length of the container and the weight in that container combination the length and the weight has a different affect on the lashing requirements?

MR. NEWTON: The weight has an affect on the lashing calculations. The length, I do not believe has an affect. Well, I take that back. The length will have an affect.

INVESTIGATOR KUCHARSKI: Okay. So if you had the same amount of weight in a 40 foot container as opposed to a 53 assuming even distribution of the weight would the lashing requirement change?

MR. NEWTON: The lashing calculation would change. To what extent I'm not sure.

INVESTIGATOR KUCHARSKI: Okay. And the last question along this line on the container lashings. In the help menu it says that CargoMax and I'm quoting, sorry that you don't have it before you.

But the exact quote is the container lashing calculations are predicated on the Classification Society rules. And they're applied and the vessels available lashing systems are considered.

The Classification Society rules, are those for the cargo securing manual? What Classification Society rules am I looking at?

MR. NEWTON: That would be the definition of how those lashing calculations are calculated basically. The rules define what accelerations are necessary and what or what accelerations are applied and, I believe, what limits are imposed upon the container strength itself and the calculations themselves.

INVESTIGATOR KUCHARSKI: Okay. Thank you very much. That's all I have for now. Thank you.

MR. NEWTON: Okay.

INVESTIGATOR STOLZENBERG: This is Eric Stolzenberg. I'd like to, this cargo lashing, anything associated go to Coast Guard next and then we'll go back down the list in order. Jeff.

MR. STETTLER: Yes, thank you. So I have a question about CargoMax. We've already established CargoMax is not separately approved by ABS, reviewed and approved by ABS either as a loading instrument or,

and I don't know if there is such a word as a cargo securing instrument, but it was approved only as a stability instrument for GM calculations.

I'm looking through the cargo security manual which I understand from an earlier discussion with Spencer Schilling and Eugene Van Rynbach that a large portion of that came from previous Herbert Engineering experience.

My question is the capacity tables and other guidance or requirements in the lashing manual, were those calculated using CargoMax or using some other tool or how were those established in the cargo securing manual?

MR. NEWTON: If that's a question for me I don't know the answer to that. The cargo securing manual precedes the CargoMax. And so we put our lashing model together in CargoMax based on the cargo securing manual.

MR. STETTLER: Okay. All right, thank you. So there's, so one is not, CargoMax comes later. That's one of the things I was looking for. Is, as part of that process then when you develop that functionality that Mike Kucharski was just walking through with you, is there a validation of that functionality to something, presumably the cargo, the

lashing manual?

MR. NEWTON: Yes, there is and there's a validation of the data that goes into the calculations as well.

MR. STETTLER: Okay. Is there a, similar to the earlier discussion with CargoMax in general, is there a validation file of some sort that Herbert Software Solution has for that?

MR. NEWTON: Yes. As far as the model validation goes I believe so. I'm not sure, I would have to look to see if there is actual comparisons for the lashing results.

MR. STETTLER: Okay. But if you had it, it would be in that same validation file with everything else?

MR. NEWTON: Yes.

MR. STETTLER: Okay. Thank you. And I guess I would like to, because I think they're related also extend that same line of questioning to the loading function within CargoMax. And that is that CargoMax does not specifically reviewed and approved as a loading instrument in terms of calculation of longitudinal bending, shear force, bending moment, et cetera.

Since there is no loading manual that

functionality within CargoMax is there any kind of validation on that function or anything that's compared to where that functionality is developed as part of the program or not?

MR. NEWTON: In this specific case or in general?

MR. STETTLER: Well I'm after in this specific case for the El Faro was there, let me restate the question. Was there any validation or comparison for shear force and bending moment calculations for the El Faro in comparison to any other reviewed and approved documentation?

MR. NEWTON: To my knowledge there was not.

MR. STETTLER: Okay. Thank you. No further questions. I'm done, Eric.

INVESTIGATOR STOLZENBERG: Okay. We'll just keep our standard order. Mr. Gruber.

MR. GRUBER: Tom Gruber. No questions here. Thank you.

MR. O'MEARA: This is Dennis. No questions.

INVESTIGATOR STOLZENBERG: Mike, anything else?

INVESTIGATOR KUCHARSKI: Thank you, Eric, thanks for thinking of me. I would like to come back to the question now that I've, this makes a little more

sense to me. Thank you.

Mr. Newton, okay, so the lashing margin that I look at on the particular bay if there's a negative number is that a tonnage? Is that a percentage? What am I looking at with a negative number? What is that lashing margin telling me if I see a negative number or any of the numbers there for that matter?

MR. NEWTON: The lashing margin calculation is intended to indicate the amount of weight you add or remove from the topmost container and still meet the requirements or to meet the requirements.

INVESTIGATOR KUCHARSKI: Okay. So if I were to see a negative number on the, I don't know I'll pick a number out say a -5.0 on the lashing margin. So that would indicate five tons would have to be removed for it to be compliant?

MR. NEWTON: I believe so, yes.

INVESTIGATOR KUCHARSKI: Okay. Great. Thank you very much. No further questions.

MR. VAN RYNBACH: This is Eugene. I have no questions.

MR. SCHILLING: This is Spencer. Just a clarification on the cargo securing manual and the lashing calcs. The details, the lashing calculation engine that does the lashing calcs is a Herbert

Engineering tool and based on our lashing analysis program.

So if there are more detailed questions on how the calcs are done or what impacts result I can field those at a different time. That's all I had.

INVESTIGATOR STOLZENBERG: Eric Stolzenberg. Thank you, Spencer. We could maybe do that through an e-mail for a specific thing down the road. Moving on to Willa.

MR. FRANCE: Yes, that was really my only question whether Herbert ABS or Herbert Software Solutions before that was involved with the lashing program. And as I understand Spencer the answer to that is, no. The lashing program is a Herbert Engineering Corporation program. Yes?

MR. SCHILLING: This is Spencer. If that's a question for me. The program itself is, the lashing program that we've been talking about is incorporated into CargoMax and it's a lashing function that's added on top of CargoMax.

The calculation engine that's incorporating that, that actually does the calculations on stack weights not the display but just the core calculations is Herbert Engineering program. And it's the same program that we use to design lashing systems and to

produce the calculations that are shown in the cargo securing manual.

INVESTIGATOR STOLZENBERG: All right. This is Eric Stolzenberg again. If I might ask for the record for Mike, what version and vessel are you referring to in your discussion with Mike Kucharski regarding CargoMax?

MR. NEWTON: The vessel is the SS El Faro. The database was dated 17 June 2010. That was the latest version. The software version that I am running here was our latest one to one version because it's only, it was only available on a development computer so it might not be the exact CargoMax program version. I'm sorry.

INVESTIGATOR STOLZENBERG: Continue please.

MR. [redacted]: I was going to say that was Version 1.21.0224 from 16 January 2013. That's our latest version here.

INVESTIGATOR STOLZENBERG: Thank you. And if I could ask Mr. Kucharski if similar information is available to him what version is he, what vessel is he looking at and what version is he running?

INVESTIGATOR KUCHARSKI: I heard the question. Just need to scroll up. This is for the, let's see, effective date is 12, December 2005, and

it's Revision Zero and it's for the SS El Faro (ex-Northern Lights).

MR. NEWTON: That was the cargo securing manual.

INVESTIGATOR KUCHARSKI: Sorry.

INVESTIGATOR STOLZENBERG: Eric Stolzenberg. Mike, I was looking for the CargoMax just for the record so we know if we want to review the pages and the entry you and Mike didn't discuss earlier we can find those.

INVESTIGATOR KUCHARSKI: Okay. I'm sorry. Steer me to where I could find that quickly.

MR. NEWTON: That would be in the help menu about CargoMax or about Windows CargoMax.

INVESTIGATOR KUCHARSKI: The version I'm looking at is Version 1.21.0203 and it's 1 June 2010.

MR. NEWTON: And the date at the bottom?

INVESTIGATOR KUCHARSKI: The date at the bottom says SS El Faro (17 June 2010).

MR. NEWTON: So for clarification, this is Mike Newton speaking, we have the same database date but I'm running a newer CargoMax executable than he is. But I would expect the results to be identical from the two programs.

INVESTIGATOR STOLZENBERG: Okay. Thank you

very much, Mike. I don't know if we need a five minute break. I don't think we have too much left. I know Jeff has a few questions and I do. But I would suggest we take five right now and maybe we can wrap it up shortly thereafter.

MR. NEWTON: Okay. I could use some water.

INVESTIGATOR STOLZENBERG: Okay. We'll come back in five minutes. We'll go off the record. Please don't hang up your phones or anything like that. We'll just, when everyone is back we'll start right up again.

(Whereupon, the above-entitled matter went off the record briefly.)

INVESTIGATOR STOLZENBERG: Okay. The time is 13:48. We're continuing the interview of Mr. Mike Newton from Herbert ABS Software from earlier. Mr. Newton, from a Herbert ABS Software perspective, is there any difference in Class approvals between the various Class societies? Specifically I'll just throw out there DNV GL, Lloyd's and ABS, in your experience?

MR. NEWTON: The one major difference that I would point out is DNV GL and Lloyd's provide type approval for our software. And that type approval is something where we can submit our program for a number of nominated vessels or ships and once we've satisfied Class requirements that our overall software is

complete and verified then the, we receive type approval for that version of software.

And then the actual individual ship approvals are significantly simpler and easier to go through and cheaper as well. So we've had our software type approved by a number of Class Societies where they have again, systematically gone through and checked all of our calculations for a representative number of different types of ships and types of configurations.

And then for ship specific approvals the individual approval for a ship then is much more focused on the individual data for that ship and that type of thing. For ABS they do not offer type approval for our software. So every approval that we submit to ABS for CargoMax approval is doing a full ship specific approval at that time.

INVESTIGATOR STOLZENBERG: Okay. And a follow on. Has Herbert ABS Software sought or engaged in dialogue with ABS Class to get or allow for type approval from ABS?

MR. NEWTON: We have in the past and I've been told that it was not something that they offered.

INVESTIGATOR STOLZENBERG: Okay. Thank you. Along the same lines, is there any difference, let me ask you first. Are you familiar with the LJ (phonetic)

compliance program as a, overseen by the United States Coast Guard?

MR. NEWTON: I am not, no.

INVESTIGATOR STOLZENBERG: Okay. Well then I'll skip my next question then. Let me kick it down the line regarding ABS approval or the line of thinking of different classification societies. First the Coast Guard.

MR. STETTLER: Nothing on Class society related stuff. Thank you.

INVESTIGATOR STOLZENBERG: Tom.

MR. GRUBER: Nothing for me. Thank you.

MR. O'MEARA: Nothing further from me. This is Dennis.

INVESTIGATOR KUCHARSKI: Mike Kucharski, nothing from me.

MR. VAN RYNBACH: This is Gene, nothing.

MR. SCHILLING: This is Spencer, nothing here.

MR. FRANCE: Nothing from Willa.

INVESTIGATOR STOLZENBERG: Okay. Moving on. We understand from looking at CargoMax there's also a structural component to it although I think we've discussed today that the structural component and the cargo lashing compartment are not class approved.

What products does Herbert ABS Software provide for commercial ships with regard to structure, scaling assessments, hull buckling, deck loading, hull girder strength just in general?

MR. NEWTON: Well the softwares are the same as before. HECSALV for a general design situation and CargoMax for a ship specific calculation. Our strength calculations are pretty much specifically set to longitudinal strength calculations based on basic beam theory that the standard bending moment and shear force calculations that most ships are doing.

INVESTIGATOR STOLZENBERG: Okay. And in regards specifically to the El Faro, what major products or analysis did Herbert ABS Software provide over the life of the vessel?

MR. NEWTON: As you've seen -- I'm sorry.

INVESTIGATOR STOLZENBERG: And I mean beyond the stability portion of the CargoMax program.

MR. NEWTON: As you see in CargoMax we do have the strength calculations turned on within the software. But we are calculating the bending moment and shear force values for a given loading condition within the software.

And we are comparing, and we are actually comparing those values to the at sea and in harbor

strength allowables as well.

INVESTIGATOR STOLZENBERG: And that's my next question is what criterion is CargoMax using and where are they getting the, where are you getting the input values for the allowable strengths, what other data sources?

MR. NEWTON: Well we are, as I said, we are comparing the calculated shear force against the allowable shear force curve and we're calculating the bending moment and comparing that to the allowable bending moment. Where those allowables directly came from I do not know off the top of my head.

But as I have been saying I can look into our data files and our correspondence to determine that.

INVESTIGATOR STOLZENBERG: Okay. What, before I request some more information on that I will turn this over to Jeff Stettler and we'll go down the list again.

MR. STETTLER: Thank you. Jeff Stettler from the Coast Guard. Mike, I have a couple of questions about the, basically hull girder deflection. And there's two aspects. These are a page or two in the user's manual.

So I'm looking at the CargoMax user's

manual, 9th edition. Go to the first page actually. It doesn't have a date on it. Copyright 2011. So it's the 9th edition I guess of your September 2011.

I have got a question on well Page 26 talks about calculated hull girder deflection, and just as I'm talking I've got to go back to 26 now. But there's a paragraph, a couple of paragraphs in the middle of the page that talk about calculated hull girder deflection.

Basically I, paraphrasing here I think basically on the lines that CargoMax will calculate the deflection of the hull and take that deflection into account in terms of the hydrostatics. Assuming that, I guess, a couple of things have to be in there.

One is that I would assume that bonjean curves would need to be included in the model. And the other which I don't think is specifically stated in the write up here on Page 26, I would assume that there would have to be a section inertia data available for the hull. Are both of those two statements correct?

MR. NEWTON: Section modules data, that is correct. So it's, yes.

MR. STETTLER: Okay. So that then because I know the way HECSALV works it's basically it will do that iterative calculation. So I'm assuming, is that

correct then that CargoMax will do the same thing if that data is available in the model?

MR. NEWTON: Yes.

MR. STETTLER: Okay. And could you please discuss, you know, how and this is more of a general question, but that particular feature how often, how many vessel owners or operators use this feature to your knowledge in a routine basis?

And I would imagine most vessels like tankers and tank vessels and other things where there's a lot of variability may use this more. But of similar types of vessels to the El Faro, you know, general cargo or ROLO or even just combined container vessels, how many vessel owners or operators use this particular feature for hull girder deflection?

MR. NEWTON: In my estimation the hull girder deflection is mainly provided to our oil tanker clients. From a general cargo container, ROLO cargo client standpoint I'm having difficulty thinking of any that have it enabled within CargoMax. It's possible that they are there but I can't think of any.

MR. STETTLER: Okay. Thank you very much. And related to this on Page 49 and 50 are, just as I'm talking I'm scrolling there is about a page and a half that stuff is entering observed drafts. Observed draft

entry is the section heading.

And I guess I would ask you could you similarly discuss the applicability of this section which my understanding only requires input of for, aft, midships, drafts, no inertia. So I would assume any vessel could use this as long as they were bonjean curves entered in the model. Could you discuss the applicability of this to similar kinds of vessels?

MR. NEWTON: Yes. So for the observed drafts tool as you said the only thing that it really needs in our model to turn that on is the location of the draft marks themselves. And so I would say that almost every CargoMax that we deliver will have this tool turned on and available within use.

MR. STETTLER: Okay. So you also need, I would assume bonjean curves to get the deflection, deflector displacements. Is that correct?

MR. NEWTON: I need to refresh my memory on how this observed drafts tool works.

MR. STETTLER: So a similar question then do you see, is this something that is used frequently? Do you get much feedback on this particular tool from vessels again, similar, not tankers and vessels, but similar kind of general cargo container, ROLO, those types of vessels, do you have much interaction on other

vessel owners and operators who use this feature on a somewhat regular basis?

MR. NEWTON: So to take the step back, so in the observed drafts tool that I'm looking at for the El Faro there is no accounting for deflection. I'm sorry, there is. It calculates a deflection for the midship.

But it is not, when it's doing the differences it's just going to be doing a straight interpolation or it's going to be doing an undeflected calculation for the difference because it doesn't have any of the section module's data to do a full deflection calculation. So the deflection number that you see in the observed drafts is simply just a calculation from the forward mark and the aft mark against the midship mark and what a linear line would be versus what's been entered in the program.

In general, we do get feedback from users using this tool. And depending on the crews and again the clients, some clients will stress it more than others as well I think that everyone kind of wants to have CargoMax matching, you know, reality and matching the observed drafts as closely as possible.

So I do think quite a large number of our clients are using this tool. We do get instances where the client will come to us and say hey, my observed

drafts aren't matching what's being calculated in CargoMax. And most of the time we'll work with them to investigate why.

The first step in our investigation is always well what do the hand calculation from your T&S Booklet or your loading manual give you. And most of the time it's going to be that, you know, the hand calculation, the loading manual or the T&S Booklet is giving the same discrepancy as CargoMax is.

And so at that point the investigation can go a number of different ways. But again, we're primarily focused on having CargoMax match the approved documentation.

MR. STETTLER: Okay. Thank you. Jeff Stettler. Just one follow up question. Is that something, is that a feature in the program you normally either train or go over with the clients when you install CargoMax on their vessel?

MR. NEWTON: Speaking for myself, yes, I would generally bring this up if I was giving training to an operator onboard.

MR. STETTLER: Okay. Thank you. No further questions.

INVESTIGATOR STOLZENBERG: Mr. Gruber.

MR. GRUBER: Nothing from me. Thank you.

MR. O'MEARA: This is Dennis. No questions.

INVESTIGATOR KUCHARSKI: This is Mike Kucharski. Are these just general question now, Eric? Eric?

INVESTIGATOR STOLZENBERG: Yes, Mike, you can go ahead with some general questions as well. Let me just, before you do let me ask Spencer and Eugene and Willa if they have anything to add on this topic.

MR. VAN RYNBACH: This is Eugene. I have nothing to add.

MR. SCHILLING: This is Spencer. I have nothing.

MR. FRANCE: Nothing from Willa.

INVESTIGATOR STOLZENBERG: Eric Stolzenberg. Okay, Mike, why don't you shoot with some generals and then we'll go back up to Jeff.

INVESTIGATOR KUCHARSKI: Thank you. Mr. Newton, just a real general question. I don't see any form of calculations in the CargoMax program for any of the ROLO cargo in lashing sufficiency. Is that typical not to see that?

MR. NEWTON: I'm sorry lashing for the ROLO cargo?

INVESTIGATOR KUCHARSKI: Yes.

MR. NEWTON: That's correct. The few ROLOs

that we have done I don't think I've ever seen individual lashing requirements included in our software. I don't think we have a way to do that.

INVESTIGATOR KUCHARSKI: Okay, thank you. Nothing further.

INVESTIGATOR STOLZENBERG: Okay. I would ask starting with the Coast Guard again any other question on any topics at this point?

MR. STETTLER: Jeff Stettler here. I've got no questions, no more questions.

INVESTIGATOR STOLZENBERG: Mr. Gruber.

MR. GRUBER: No more questions for me. Thank you.

MR. O'MEARA: This is Dennis. No more questions for me.

INVESTIGATOR STOLZENBERG: Anything from Eugene or Spencer?

MR. VAN RYNBACH: This is Eugene. I have no further questions.

MR. SCHILLING: This is Spencer. I have no further questions.

MR. FRANCE: Willa has nothing more.

INVESTIGATOR STOLZENBERG: Okay. Well then I'll start wrapping up unless somebody speaks up. Feel free to after this. But, Mr. Newton, I'm not sure how

familiar you are with the loss of the El Faro.

But sometimes we ask things because we have ideas of where we want to go and what's important to investigate and what issues might help us make the system safer. But is there anything you would like to tell us or questions we should have asked but we didn't ask regarding the topics discussed today or something in general regarding the El Faro?

MR. NEWTON: No. I think that the questions you've asked have all been, I can see where a lot of these are going. From a CargoMax and an intact loading stability standpoint I think that the program that the ship had was sufficient to everything that was required.

And it's an unfortunate situation and, yes. I have no other questions or anything I would like to elaborate on.

INVESTIGATOR STOLZENBERG: Okay. Is there anything you would like to add or change regarding some of your statements today?

MR. NEWTON: No, I do not.

INVESTIGATOR STOLZENBERG: And lastly I would like to ask is there anyone, based on what you heard today is there anyone else you think we should interview?

MR. NEWTON: Not that I can think of, no.

INVESTIGATOR STOLZENBERG: Okay. And I'll give my colleagues one last chance to speak up. If not we will conclude the interview.

MR. FRANCE: I have one question, Willa France. And simply a clarification actually. Mike Kucharski was referring to CargoMax and the lashing program and asking questions about it. And at the same time Mike Newton was looking at his version.

And I just want to be clear whether Mr. Kucharski's questions were based on the actual departure load condition of the El Faro firstly. And secondly, whether Mr. Newton's responses in the version he was looking at were based on departure conditions for the El Faro.

MR. NEWTON: This is Mike Newton. I'll answer that to my understanding was Michael Kucharski was looking at the program and asking general questions about the information he was seeing. And I was able to answer those questions in a general answer without actually seeing the specific loading condition he was looking at.

MR. FRANCE: And, Mike.

INVESTIGATOR KUCHARSKI: Willa, I don't know what you're asking of me.

MR. FRANCE: I'm sorry. Were you looking at the actual departure condition for the El Faro when you were asking your questions?

INVESTIGATOR KUCHARSKI: Yes.

MR. FRANCE: Okay. That's fine. That's all.

INVESTIGATOR STOLZENBERG: Okay. This is Eric Stolzenberg again. Then with nothing more to add the time now is 14:09. We will go off the record and conclude the interview of Mr. Mike Newton, Herbert ABS Software.

(Whereupon, the above-entitled matter went off the record at 2:09 p.m.)

C E R T I F I C A T E

MATTER: El Faro Incident
October 1, 2015
NTSB Accident No. DCA16MM001
Interview of Michael Newton

DATE: 02-08-16

I hereby certify that the attached transcription of page 1 to 97 inclusive are to the best of my professional ability a true, accurate, and complete record of the above referenced proceedings as contained on the provided audio recording; further that I am neither counsel for, nor related to, nor employed by any of the parties to this action in which this proceeding has taken place; and further that I am not financially nor otherwise interested in the outcome of the action.

- [redacted] -

Office of Marine Safety
Transcript Errata

Matter: El Faro
Ref #: DCA16MM001

Mr. Newton:

Enclosed with this letter is a copy of the transcript of the interview of Mr. Newton (yourself) taken on 1/28/2016. Kindly review this transcript for accuracy and provide corrections, if any, in the attached table.

Thank you in advance for your attention to this matter.

2/16/2016
Date

Eric Stolzenberg
Major Marine Accident Investigator

TABLE OF CORRECTIONS TO TRANSCRIPT OF INTERVIEW FOR

Michael Newton

TAKEN ON

February 08, 2016

PAGE NUMBER	LINE NUMBER	CURRENT WORDING	CORRECTED WORDING
3	7	Political	??
5	16	L&P	LMP
5	23	Naval Architecture in Marine Engineering	Naval Architecture and Marine Engineering
6	20	L&P	LMP
Various	Various	Herbert ABS Software	Herbert-ABS Software

8	11	Herbert or ABS Software Solutions, LLC	Herbert-ABS Software Solutions, LLC
9	14, 20	Seritella	Serratella
11	13	low line	load line
11	14	wrapped response	rapid response
12	13	gave us a quote	gave us a PO
14	15	coming the shipyard	coming from the shipyard
21	8	Required wind yield	Required wind heel
35	1	GMS Booklet	T&S Booklet
40	4	Inspectors request	Inspectors can request
50	12	and give	at a given
55	7-8	Battery (phonetic) file import tool	BAPLIE file import tool
66 + various	6 + various	day	bay
66	17	BCG	VCG
67	18	SGR, MG	Str Mg
75	4	security	securing
80	11	One to one	1.21
85	3	scaling	scantling
88 + various	13 + various	ROLO	RORO
87	21	section modules	section modulus
89	4	Input of for,	Input of fore,
Various	Various	Mr. France	Ms. France

If, to the best of your knowledge, no corrections are needed kindly circle the statement "no corrections needed" and initial in the space provided.

NO CORRECTIONS NEED. _____
Initials

Michael Newton
Printed Name of Person providing the above information

[redacted]
Signature of Person providing the above information

2/29/16
Date